

**Translation**

**PATENT COOPERATION TREATY**

PCT/ES2003/000337



**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2003213	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. PCT/ES2003/000337	International filing date ( <i>day/month/year</i> ) 07 July 2003 (07.07.2003)	Priority date ( <i>day/month/year</i> )
International Patent Classification (IPC) or national classification and IPC F16C 11/06, B62D 7/16, B60G 7/00, 21/055		
Applicant ZF FRIEDRICHSHAFEN AG		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>2</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand 27 January 2005 (27.01.2005)	Date of completion of this report 11 November 2005 (11.11.2005)
Name and mailing address of the IPEA/ES	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/ES2003/000337

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☐ The international application as originally filed/furnished

- ☒ the description:

pages \_\_\_\_\_ 1-7 \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☒ the claims:

pages \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19

pages\* 8-9 received by this Authority on 11 August 2005 (11.08.2005)

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☒ the drawings:

pages \_\_\_\_\_ 1/5-5/5 \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☒ the claims, Nos. \_\_\_\_\_ 3 \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/ES 03/00337

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-2	YES
	Claims		NO
Inventive step (IS)	Claims	1-2	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-2	YES
	Claims		NO

### 2. Citations and explanations

#### Citations:

D1: WO 02/101250

D2: US 5100254

Claim 1 (11 August 2005)

The claimed invention relates to a ball joint provided with a dust cover and a thermal protector integrated in the dust cover to protect it from high ambient temperatures.

This type of ball joint is already known from document D1, in which a thermal protector (7) is secured to a ring (7, 19) previously incorporated by vulcanisation in the neck (6a) of the dust cover (6).

The claimed invention differs from D1, and is therefore novel (PCT Article 33(2)), by the union means used to secure the thermal protector to the ring. These means are of the quick-fastening type using flexible tongues and grooves, whereas in D1 a rigid union by plastic deformation or welding is used. In addition, D1 refers to document D2 (page 1, lines 6-26), whose disclosure can be

considered to form an integral part of D1, and in which the union means used consist of a flexible lip (15) arranged in the opening of the protector (10) and coupled by elastic deformation to a groove (16) in the ring (13) when an axial insertion force is applied. D1 comments on the difficulty of assembly of the solution in D2, in which considerable axial force must be applied to an elastic element such as the dust cover, and proposes a union by plastic deformation or welding, which does not require the application of an axial force.

In comparison with the prior art (D1 and D2), the claimed solution makes it easier and less costly to mount the protector in the ring, as described by the applicant (page 3, lines 9-13).

Although male-female unions of the quick-fastening type using tongues and grooves are known *per se* and have multiple uses, it does not appear that a person skilled in the art would be prompted to use this type of union to secure the protector to the ring; on the contrary, the relevant prior art seems to encourage a person skilled in the art to use a rigid union which ensures the relative immobility of the two components, both in the axial direction and in the direction of rotation.

Consequently, it can be considered that it would not be obvious for a person skilled in the art to arrive at the features of this claim, and that the claimed invention appears to meet the requirement of PCT Article 33(3) for inventive step.

The invention, however, appears to be obviously industrially applicable (PCT Article 33(4)).

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

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Claim 2 (11 August 2005)

The additional features of this claim are entirely anticipated by D1. Nevertheless, since it is a claim dependent on claim 1, it appears, like claim 1, to meet the requirements of PCT Article 33.